

JIB-1571_SequenceListing_07-18-11_ST25.txt
SEQUENCE LISTING

<110> Winter Sederoff, Heike
Huber, Steven C
Larabell, Carolyn A

<120> SYNTHETIC PEPTIDES THAT CAUSE F-ACTIN BUNDLING AND BLOCK ACTIN DEPOLYMERIZATION

<130> JIB-1571

<140> 10/576,757
<141> 2006-04-20

<150> US 60/513,275
<151> 2003-10-20

<160> 30

<170> PatentIn version 3.5

<210> 1
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic consensus active Zea mays Sucrose Synthase (SuSy) peptide

<400> 1

Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp
1 5 10 15

<210> 2
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from zea mays SuSy1 protein 367-381

<400> 2

Glu Asn Gly Ile Leu Arg Lys Trp Ile Ser Arg Phe Asp Val Trp
1 5 10 15

<210> 3
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from zea mays SuSy2 protein 357-389

<400> 3

Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp
1 5 10 15

JIB-1571_SequenceListing_07-18-11_ST25.txt

<210> 4
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Zea mays SuSy3 protein

<400> 4

Glu Asn Gly Ile Leu Lys Lys Trp Ile Ser Arg Phe Asp Val Trp
1 5 10 15

<210> 5
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Drosophila melanogaster Actin 2 protein and Homo sapiens beta and gamma Actin proteins

<400> 5

Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
1 5 10 15

<210> 6
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Drosophila melanogaster Actin 3, 5, and 6 proteins and Homo sapiens alpha Actin protein

<400> 6

Glu His Gly Ile Ile Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
1 5 10 15

<210> 7
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Drosophila melanogaster ARP1

<400> 7

Glu His Gly Ile Val Lys Asp Trp Asn Asp Met Glu Arg Ile Trp
1 5 10 15

<210> 8
<211> 15
<212> PRT
<213> Artificial

JIB-1571_SequenceListing_07-18-11_ST25.txt

<220>

<223> synthetic peptide derived from Drosophila melanogaster ARP2

<400> 8

Glu Asn Gly Val Val Arg Asn Trp Asp Asp Met Cys His Val Trp
1 5 10 15

<210> 9

<211> 17

<212> PRT

<213> Artificial

<220>

<223> synthetic SS1 inactive control peptide

<400> 9

Gly Asp Arg Val Leu Ser Arg Leu His Ser Val Arg Glu Arg Ile Gly
1 5 10 15

Lys

<210> 10

<211> 18

<212> PRT

<213> Artificial

<220>

<223> SS2 active peptide based on Zea mays SuSy 377-392

<400> 10

Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu
1 5 10 15

Lys Lys

<210> 11

<211> 15

<212> PRT

<213> Artificial

<220>

<223> SS11 inactive synthetic peptide

<400> 11

Ile Leu Arg Val Pro Phe Arg Thr Glu Asn Gly Ile Val Arg Lys
1 5 10 15

<210> 12

<211> 16

<212> PRT

JIB-1571_SequenceListing_07-18-11_ST25.txt

<213> Artificial

<220>

<223> SS12 active synthetic peptide

<400> 12

Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu
1 5 10 15

<210> 13

<211> 16

<212> PRT

<213> Artificial

<220>

<223> SS15 less active synthetic peptide

<220>

<221> SITE

<222> (6)..(6)

<223> replaced Tryptophan residue with Alanines

<220>

<221> SITE

<222> (13)..(13)

<223> replaced Tryptophan residue with Alanine

<400> 13

Gly Ile Val Arg Lys Ala Ile Ser Arg Phe Glu Val Ala Pro Tyr Leu
1 5 10 15

<210> 14

<211> 9

<212> PRT

<213> Artificial

<220>

<223> SS16 less active synthetic peptide corresponding to short middle portion of SS12 synthetic peptide

<400> 14

Ser Arg Phe Glu Val Trp Pro Tyr Leu
1 5

<210> 15

<211> 19

<212> PRT

<213> Artificial

<220>

<223> NR11 inactive synthetic peptide

<400> 15

Gly Pro Thr Leu Lys Arg Thr Ala Ser Thr Ala Phe Met Asn Thr Thr
1 5 10 15

JIB-1571_SequenceListing_07-18-11_ST25.txt

Ser Lys Lys

<210> 16
<211> 14
<212> PRT
<213> Artificial

<220>
<223> SP26 inactive synthetic peptide

<400> 16

Gly Arg Met Arg Arg Ile Ala Thr Val Glu Met Met Lys Lys
1 5 10

<210> 17
<211> 8
<212> PRT
<213> Artificial

<220>
<223> Small block of SS12 sequence required for less active synthetic peptide

<400> 17

Trp Ile Ser Arg Phe Glu Val Trp
1 5

<210> 18
<211> 10
<212> PRT
<213> Artificial

<220>
<223> SP3 inactive synthetic peptide

<400> 18

Arg Arg Ile Ser Ser Val Glu Asp Lys Lys
1 5 10

<210> 19
<211> 20
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide of Drosophila melanogaster Actin protein consensus sequence

<400> 19

Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp His
1 5 10 15

JIB-1571_SequenceListing_07-18-11_ST25.txt

His Thr Phe Tyr
20

<210> 20
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Homo sapiens ARP1 protein

<400> 20

Glu His Gly Val Val Arg Asp Trp Asn Asp Met Glu Arg Ile Trp
1 5 10 15

<210> 21
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Homo sapiens ARP2 protein

<400> 21

Glu Asn Gly Ile Val Arg Asn Trp Asp Asp Met Lys His Leu Trp
1 5 10 15

<210> 22
<211> 6
<212> PRT
<213> Artificial

<220>
<223> Core minimum block of SS12 sequence required for less active
synthetic peptide

<400> 22

Ser Arg Phe Glu Val Trp
1 5

<210> 23
<211> 13
<212> PRT
<213> Artificial

<220>
<223> SS synthetic peptide B

<400> 23

Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu Lys Lys
1 5 10

<210> 24

JIB-1571_SequenceListing_07-18-11_ST25.txt

<211> 20
<212> PRT
<213> Artificial

<220>
<223> SS synthetic peptide C

<400> 24

Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro
1 5 10 15

Tyr Leu Lys Lys
20

<210> 25
<211> 20
<212> PRT
<213> Artificial sequence

<220>
<223> Consensus sequence of Synthetic Susy and ARP sequences

<220>
<221> VARIANT
<222> (2)..(2)
<223> X=His or Asn

<220>
<221> VARIANT
<222> (5)..(5)
<223> X= Val or Leu or Ile

<220>
<221> VARIANT
<222> (6)..(6)
<223> X= Arg or Thr or Lys

<220>
<221> VARIANT
<222> (7)..(7)
<223> X= Lys, Asn, Asp

<220>
<221> VARIANT
<222> (9)..(9)
<223> X= Ile or Asp or Asn

<220>
<221> VARIANT
<222> (10)..(10)
<223> X= Ser or Asp

<220>
<221> VARIANT
<222> (11)..(11)
<223> X= Arg or Met

<220>
<221> VARIANT

JIB-1571_SequenceListing_07-18-11_ST25.txt

<222> (12)..(12)
<223> X= Glu, Phe, Cys, or Lys

<220>
<221> VARIANT
<222> (13)..(13)
<223> X= Glu, Asp, Lys, Arg, or His

<220>
<221> VARIANT
<222> (14)..(14)
<223> X= Ile, Leu, or Val

<220>
<221> VARIANT
<222> (16)..(16)
<223> X= His or none

<220>
<221> VARIANT
<222> (17)..(17)
<223> X= His or none

<220>
<221> VARIANT
<222> (18)..(18)
<223> X= Thr or none

<220>
<221> VARIANT
<222> (19)..(19)
<223> X= Phe or none

<220>
<221> VARIANT
<222> (20)..(20)
<223> X= Tyr or none

<400> 25

Glu Xaa Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Trp Xaa
1 5 10 15

Xaa Xaa Xaa Xaa
20

<210> 26
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> Motif for a synthetic peptide which causes actin bundling and
inhibits actin depolymerization

<220>
<221> VARIANT
<222> (2)..(2)
<223> X = any amino acid

JIB-1571_SequenceListing_07-18-11_ST25.txt

<220>
<221> VARIANT
<222> (4)..(4)
<223> X = Ile or Val

<220>
<221> VARIANT
<222> (5)..(7)
<223> X = any amino acid

<220>
<221> VARIANT
<222> (9)..(14)
<223> X = any amino acid

<400> 26

Glu Xaa Gly Xaa Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp
1 5 10 15

<210> 27
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> Motif for a synthetic peptide that causes actin bundling and
inhibits actin depolymerization

<220>
<221> VARIANT
<222> (2)..(2)
<223> X= Lys, Arg, or His

<220>
<221> VARIANT
<222> (5)..(5)
<223> X= Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met

<220>
<221> VARIANT
<222> (6)..(6)
<223> X= Lys, Arg, or His

<220>
<221> VARIANT
<222> (7)..(7)
<223> X= any amino acid

<220>
<221> VARIANT
<222> (9)..(13)
<223> X= any amino acid

<220>
<221> VARIANT
<222> (14)..(14)
<223> X= Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met

<400> 27

JIB-1571_SequenceListing_07-18-11_ST25.txt
Glu Xaa Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Trp
1 5 10 15

<210> 28
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Formula (I) for active synthetic peptides

<220>
<221> VARIANT
<222> (3)..(3)
<223> X = Ile, Val, or Leu

<220>
<221> VARIANT
<222> (4)..(4)
<223> X = Arg, Lys, Asn, or Thr

<220>
<221> VARIANT
<222> (5)..(5)
<223> X = Arg, Lys, Asn, or Asp

<220>
<221> VARIANT
<222> (7)..(7)
<223> X = Ile, Asp, Asn, or Glu

<220>
<221> VARIANT
<222> (8)..(8)
<223> X = Ser, or Asp

<220>
<221> VARIANT
<222> (9)..(9)
<223> X = Arg, Met, or Ala

<220>
<221> VARIANT
<222> (10)..(10)
<223> X = Phe, or Glu

<220>
<221> VARIANT
<222> (11)..(11)
<223> X =Asp, Glu, Lys, Arg, or His

<220>
<221> VARIANT
<222> (12)..(12)
<223> X =Val, or Ile

<220>
<221> VARIANT
<222> (14)..(14)
<223> X =Pro, or His

JIB-1571_SequenceListing_07-18-11_ST25.txt

<220>
<221> VARIANT
<222> (15)..(15)
<223> X =Tyr, or His

<220>
<221> VARIANT
<222> (16)..(16)
<223> X =Leu, or Thr

<400> 28

Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Trp Xaa Xaa Xaa
1 5 10 15

<210> 29
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Formula (II) for synthetic active peptides

<220>
<221> VARIANT
<222> (3)..(3)
<223> X = Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met

<220>
<221> VARIANT
<222> (4)..(4)
<223> X = Lys, Arg, or His

<220>
<221> VARIANT
<222> (5)..(5)
<223> X = any amino acid

<220>
<221> VARIANT
<222> (7)..(11)
<223> X = any amino acid

<220>
<221> VARIANT
<222> (12)..(12)
<223> X = Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met

<400> 29

Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp
1 5 10

<210> 30
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> SS2 and SS12 subsequence necessary for peptide activity

JIB-1571_SequenceListing_07-18-11_ST25.txt

<400> 30

Gly Ile Val Arg Trp Lys Ile
1 5